GRS
5th Edition

DEMENTIA

OBJECTIVES

Know and understand:

- The risks for and causes of dementia
- Evaluation of patients with dementia
- How to plan behavioral and pharmacologic treatment strategies to minimize the personal, social, & financial impacts
- How to refer patients and caregivers to available community resources

TOPICS COVERED

- Demography and societal impact
- Risk factors and protective factors
- Diagnosis, including differential
- Treatment and management
- Resources
- Case study

WHAT IS DEMENTIA?

- An acquired syndrome of decline in memory and other cognitive functions sufficient to affect daily life in an alert patient
- Progressive and disabling
- NOT an inherent aspect of aging
- Different from normal cognitive lapses

NORMAL LAPSES vs DEMENTIA Examples (1 of 2)

Forgetting a name	Not recognizing family member
Leaving kettle on	Forgetting to serve meal just prepared
Finding right word	Substituting inappropriate words
Forgetting date or day	Getting lost in own neighborhood

NORMAL LAPSES vs DEMENTIA Examples (2 of 2)

Trouble balancing checkbook	Not recognizing numbers
Losing keys, glasses	Putting iron in freezer
Getting blues in sad situations	Rapid mood swings for no reason
Gradual changes with aging	Sudden, dramatic personality change

THE DEMOGRAPHY OF ALZHEIMER'S DISEASE (AD)

- 4 million in U.S. currently
- 14 million in U.S. by 2050
- 1 in 10 persons aged 65+ and nearly half of those aged 85+ have AD
- Life expectancy of 8-10 years after symptoms begin

THE IMPACT OF DEMENTIA

Economic

- $199 billion annually for care and lost productivity
- Medicare, Medicaid, private insurance provide only partial coverage
- Families bear greatest burden of expense

Emotional

- Direct toll on patients
- Nearly half of caregivers suffer depression

RISK FACTORS FOR DEMENTIA

- Age
- Family history
- Head injury
- Fewer years of education

THE GENETICS OF DEMENTIA

Mutations of chromosomes 1, 14, 21

- Rare early-onset (before age 60) familial forms of dementia
- Down syndrome

Apolipoprotein E4 on chromosome 19

- Late-onset AD
- APOE*4 allele ↑ risk & ↓ onset age in dose-related fashion
- APOE*2 allele may have protective effect

PROTECTIVE FACTORS UNDER STUDY

- Estrogen replacement therapy after menopause
- NSAIDs
- Antioxidants

DIFFERENTIAL DIAGNOSIS FOR DEMENTIA

- Alzheimer's disease
- Vascular (multi-infarct) dementia
- Dementia associated with Lewy bodies
- Delirium
- Depression
- Other (alcohol, Parkinson's disease [PD], Pick's disease, frontal lobe dementia, neurosyphilis)

SYMPTOMS & SIGNS OF AD

- Memory impairment
- Gradual onset, progressive cognitive decline
- Behavior and mood changes
- Difficulty learning, retaining new information
- Aphasia, apraxia, disorientation, visuospatial dysfunction
- Impaired executive function, judgment
- Delusions, hallucinations, aggression, wandering

DSM-IV DIAGNOSTIC CRITERIA FOR AD

- Development of cognitive deficits manifested by both
  - —impaired memory
  - —aphasia, apraxia, agnosia, disturbed executive function
- Significantly impaired social, occupational function
- Gradual onset, continuing decline
- Not due to CNS or other physical conditions (e.g., PD, delirium)
- Not due to an Axis I disorder (e.g., schizophrenia)

PROGRESSION OF AD (1 of 3)

Mild Impairment

- Disorientation for date
- Naming difficulties
- Recent recall problems
- Mild difficulty copying figures
- Decreased insight
- Social withdrawal
- Irritability
- Mood change
- Problems managing finances

PROGRESSION OF AD (2 of 3)

Moderate Impairment

- Disorientation for date and place
- Comprehension difficulties
- Impaired new learning, calculating skills
- Getting lost in familiar areas, wandering
- Not cooking, shopping, banking
- Delusions, hallucinations
- Agitation, restlessness, anxiety, aggression
- Depression
- Problems with dressing and grooming
- Aphasia and apraxia

PROGRESSION OF AD (3 of 3)

Severe Impairment

- Nearly unintelligible verbal output
- Remote memory gone
- Unable to copy or write
- No longer grooming or dressing
- Incontinent

DSM-IV DIAGNOSTIC CRITERIA FOR VASCULAR DEMENTIA

- Development of cognitive deficits manifested by both
  - —impaired memory
  - —aphasia, apraxia, agnosia, disturbed executive function
- Significantly impaired social, occupational function
- Focal neurologic symptoms & signs or evidence of cerebrovascular disease
- Deficits occur in absence of delirium

DEMENTIA ASSOCIATED WITH LEWY BODIES

- Dementia
- Visual hallucinations
- Parkinsonian signs
- Alterations of alertness or attention

DELIRIUM vs DEMENTIA

Delirium and dementia often occur together in older hospitalized patients; the distinguishing signs of delirium are:

- Acute onset
- Cognitive fluctuations over hours or days
- Impaired consciousness and attention
- Altered sleep cycles

DEPRESSION vs DEMENTIA

The symptoms of depression and dementia often overlap; patients with primary depression:

- Demonstrate ↓ motivation during cognitive testing
- Express cognitive complaints that exceed measured deficits
- Maintain language and motor skills

ASSESSMENT: HISTORY (1 of 4)

Ask both the patient & a reliable informant about the patient's:

- Current condition
- Medical history
- Current medications & medication history
- Patterns of alcohol use or abuse
- Living arrangements

ASSESSMENT: PHYSICAL (2 of 4)

Examine:
- Neurologic status
- Mental status
- Functional status

Include:
- Quantified screens for cognition
  - e.g., Folstein's MMSE, Mini-Cog
- Neuropsychologic testing

ASSESSMENT: LABORATORY (3 of 4)

Laboratory tests should include:

- Complete blood cell count
- Blood chemistries
- Liver function tests
- Serologic tests for:
  Syphilis, TSH, Vitamin B_{12} level

ASSESSMENT: BRAIN IMAGING (4 of 4)

Use imaging when:

- Onset occurs at age < 65 years
- Symptoms have occurred for < 2 years
- Neurologic signs are asymmetric
- Clinical picture suggests normal-pressure hydrocephalus

Consider:

- Noncontrast computed topography head scan
- Magnetic resonance imaging
- Positron emission tomography

TREATMENT & MANAGEMENT

Primary goals: to enhance quality of life & maximize functional performance by improving cognition, mood, and behavior

- Nonpharmacologic
- Pharmacologic
- Specific symptom management
- Resources

NONPHARMACOLOGIC

- Cognitive enhancement
- Individual and group therapy
- Regular appointments
- Communication with family, caregivers
- Environmental modification
- Attention to safety

PHARMACOLOGIC

- Cholinesterase inhibitors: donepezil, rivastigmine, galantamine
- Other cognitive enhancers: estrogen, NSAIDs, ginkgo biloba, vitamin E
- Antidepressants
- Antipsychotics

SYMPTOM MANAGEMENT

- Sundowning
- Psychoses (delusions, hallucinations)
- Sleep disturbances
- Aggression, agitation
- Hypersexuality

TO REDUCE SUNDOWNING (1 of 2)

- Provide orientation clues
- Give adequate daytime stimulation
- Evaluate for delirium
- Maintain adequate levels of light in daytime
- Establish bedtime routine and ritual
- Provide consistent caregivers
- Remove environmental factors that might keep patient awake
- Discourage drinking stimulants or smoking near bedtime

TO REDUCE SUNDOWNING (2 of 2)

- Give diuretics, laxatives early in day
- Provide personal care at same time each day
- Ensure patient has glasses, working hearing aid
- Place familiar objects at bedside
- Monitor amount of sensory stimulation
- Consider late afternoon bright light exposure
- Avoid prn sedative hypnotics
- Establish regular dose of drug for disturbing behavior (if needed)
- Assist caregiver in obtaining respite help

TREATING PSYCHOSIS IN DEMENTIA

Antipsychotic medications (side effects):

- Higher potency: haloperidol (extrapyramidal symptoms)
- Lower potency: thioridazine (anticholinergic effects, sedation, hypotension, constipation, urine retention)
- Atypical antipsychotics: clozapine, risperidone, olanzapine

(see next slide for dosing)

ANTIPSYCHOTICS TO USE CAUTIOUSLY IN OLDER DEMENTED PATIENTS

Drug	Starting Dose	Peak Effective Dose
Clozapine	12.5-25 mg twice daily	100 mg daily
Haloperidol	0.25 at bedtime	3-5 mg daily
Olanzapine	1.25-2.5 mg at bedtime	5 mg daily
Risperidone	0.25-0.5 mg at bedtime	1-1.5 mg daily

Note: Start low, go slow.

MANAGING SLEEP DISTURBANCES

- Improve sleep hygiene (e.g, consistent bedtime, comfortable setting)
- Provide daytime activity, prevent daytime sleeping
- Use bright-light therapy
- Treat associated depression, delusions
- If the above do not succeed, consider:
  - —trazodone 25-150 mg
  - —nefazodone 100-500 mg
  - —zolpidem 5-10 mg
- Avoid benzodiazepines or antihistamines

MANAGING AGGRESSION AND AGITATION

- Behavioral interventions: distraction, supervision, routine, structure
- Behavior modification using rewards
- Pharmacologic interventions: antipsychotics, antidepressants, mood stabilizers, buspirone, β-blockers
- Avoid physical restraints

MANAGING HYPERSEXUALITY

- Treat underlying syndrome, such as mania
- Consider antiandrogens for men who are dangerously hypersexual or aggressive:
  - —Progesterone 5 mg po daily; adjust dose to suppress testosterone well below normal
  - —If responsive, may treat with 10 mg IM depot progesterone weekly
  - —Leuprolide acetate 5-10 mg IM monthly is an alternative

RESOURCES FOR MANAGING DEMENTIA (1 of 2)

- Specialist referral to:
  - —geriatric psychiatrist
  - —neurologist
  - —neuropsychologist
- Social worker
- Physical therapist
- Nurse

RESOURCES FOR MANAGING DEMENTIA (2 of 2)

- Attorney for will, conservatorship, estate planning
- Community: neighbors & friends, aging & mental health networks, adult day care, respite care, home-health agency
- Organizations: Alzheimer's Association, Area Agencies on Aging, Councils on Aging
- Services: Meals-on-Wheels, senior citizen centers

SUMMARY (1 of 2)

- Dementia is common in older adults but is NOT an inherent part of aging
- AD is the most common type of dementia, followed by vascular dementia and dementia with Lewy bodies
- Evaluation includes history with informant, physical & functional assessment, focused labs, & possibly brain imaging

SUMMARY (2 of 2)

- Primary treatment goals: enhance quality of life, maximize function by improving cognition, mood, behavior
- Treatment may use both medications and nonpharmacologic interventions
- Community resources should be used to support patient, family, caregivers

CASE #1 (1 of 3)

An 83 y.o. nursing-home resident with moderately severe AD has had intermittent delusional thoughts and anxiety, but these have not been prolonged. He has had mild chronic renal failure, anemia, and a fractured hip but now ambulates well. He takes no psychotropic medications and sleeps well.

During the past 2 weeks, however, he has spent increasing amounts of time wandering the halls. He has also entered another patient's room and rummaged through belongings and once was found outside the building.

CASE #1 (2 of 3)

Which of the following is the most appropriate treatment strategy?

- Provide structured physical activity and accompanied outdoor walks
- Use a vest restraint in a chair intermittently during the day
- Use wrist restraints during episodes of particularly vigorous walking
- Prescribe risperidone 1 mg po bid
- Transfer the patient to another nursing home

CASE #1 (3 of 3)

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Co-Editors:
Karen Blackstone, MD
Elizabeth L. Cobbs, MD
GRS5 Chapter Authors:
Gary W. Small, MD
Constantine G. Lyketsos, MD, MHS
GRS5 Question Writers:
David Sultzer, MD
Pierre N. Tariot, MD
Special Advisor: Richard Dupee, MD
Medical Writer: Barbara B. Reitt, PhD, ELS (D)
Managing Editor: Andrea N. Sherman, MS